

$^{26}\text{Mg}(\text{p},\gamma)$     1982Sm04, 1978Ma24, 1963Va24

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia		NDS 112, 1875 (2011)	30-Nov-2010

Others: 2010Li22, 2008Ka43, 1990Il01, 1988Li31, 1987Ko33, 1985Uh01, 1982An11, 1980Bu14, 1980Is04, 1980Ke03, 1974Ro24, 1971Ro22, 1969Va30, 1967Va15, 1967Sh06.

1982Sm04: 99.4% enriched  $^{26}\text{Mg}$  on tantalum backing; projectile: p, E=0.29-2.2 MeV;  $\gamma$ -rays detected by 2 Ge(Li) detectors; measured E $\gamma$ ,  $\gamma$ -ray branching,  $\gamma(\theta)$ , reported 60  $^{26}\text{Mg}(\text{p},\gamma)^{27}\text{Al}$  resonances, deduced  $\gamma$ -ray angular distribution coefficients, mixing ratio, meanlife limits, level J $\pi$ , resonance strengths.

1978Ma24: 99.4% enriched  $^{26}\text{Mg}$  target on tantalum backing; projectile: p, E=338, 454, 700-1000 keV;  $\gamma$ -rays were detected using two Ge(Li) detectors. Measured:  $\gamma$ -rays, branching ratio and  $\gamma(\theta)$  for 8 low-energy  $^{26}\text{Mg}(\text{p},\gamma)^{27}\text{Al}$  resonances, deduced  $\gamma$ -ray angular distribution coefficients, mixing ratio, meanlife limits, level J $\pi$ .

1963Va24: 98.8% enriched  $^{26}\text{Mg}$  targets on tantalum backing; projectile: p, E=0.2-3.0 MeV;  $\gamma$ -rays measured using NaI detector; reported 120  $^{26}\text{Mg}(\text{p},\gamma)^{27}\text{Al}$  resonances, deduced excitation energy, width, strength.

1980Is04:  $^{26}\text{Mg}(\text{p},\gamma)$ ,  $^{26}\text{Mg}(\text{p},\text{p})$ : 99% enriched  $^{26}\text{Mg}$  target, E=1.60-3.95 MeV for (p, $\gamma$ ) and 1.9-4.0 MeV for (p,p); Ge(Li) and NaI detectors; Measured: E $\gamma$ ,  $\gamma(\theta)$ , deduced excitation energy, J $\pi$ , width, spectroscopic factor.

2008Ka43:  $^{26}\text{Mg}(\text{p},\gamma)$ , E=0.8-3.0 MeV, studied M1 resonance strength on the ground and excited states of  $^{27}\text{Al}$ .

 $^{27}\text{Al}$  Levels

E(level) <sup>†</sup>	J $\pi$ <sup>#</sup>	T <sub>1/2</sub> @	Comments
0	5/2 <sup>+</sup>		
843.76 9	1/2 <sup>+</sup>		
1014.56 9	3/2 <sup>+</sup>		
2211.1 6	7/2 <sup>+</sup>	26.7 fs 14	
2734.9 7	5/2 <sup>+</sup>	10.9 fs 12	
2982.00 5	3/2 <sup>+</sup>	3.9 fs 11	E(level): From 1987Ko33.
3004.2 8	9/2 <sup>+</sup>	67 fs 6	
3680.4 9	1/2 <sup>+</sup>	5.4 fs 12	
3956.8 4	3/2 <sup>+</sup>	4.2 fs 21	
4054.6 5	1/2 <sup>-</sup>	6.9 fs 14	
4410.2 4	5/2 <sup>+</sup>		
4510.3 5	11/2 <sup>+</sup>	277 fs 70	
4580.0 8	7/2 <sup>+</sup>	21 fs 4	
4811.6 5	5/2 <sup>+</sup>	<6.9 fs	
5155.6 8	3/2 <sup>-</sup>	5.5 fs 14	
5248.0 6	5/2 <sup>+</sup>	<4.2 fs	
5419.9 9	9/2 <sup>+</sup>	<28 <sup>c</sup> fs	
5432.8 10	7/2	8.3 fs 21	
5438.4 8	5/2 <sup>-</sup>	<21 fs	
5499.8 8	11/2 <sup>+</sup>		
5550.9 5	5/2		
5667.3 12	9/2 <sup>+</sup>		
5751.6 10	1/2 <sup>+</sup>	<10 fs	
5827.0 8	3/2 <sup>-</sup>	<21 <sup>c</sup> fs	
5960.3 7	7/2	3 fs 3	
6080.8 9	3/2		
6115.8 6	5/2		
6158.4 7	3/2 <sup>-</sup>	<21 <sup>c</sup> fs	
6284.7 15	7/2 <sup>+</sup>		E(level): 6288.7 12 in 1978Ma24.
6462.8 13	5/2		
6477.3 9	7/2 <sup>-</sup>		
6512.2 11	9/2	9 fs 3	
6533 1	7/2 <sup>+</sup>		
6605.1 9	3/2 <sup>-</sup>		
6651.3 7	5/2 <sup>-</sup>		

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**$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24 (continued)**

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$^{27}\text{Al}$  Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup> #	T <sub>1/2</sub> <sup>@</sup>	S <sup>f</sup>	Comments
6713 1	9/2 <sup>+</sup>	<6.9 fs		
6765 1	5/2			
6776.3 11	3/2			
6813.8 7	1/2 <sup>+</sup>			
6820.7 13	(3/2,7/2) <sup>+</sup>			
6992.9 9	5/2 <sup>-</sup>			
6996 2	(1/2,3/2) <sup>-</sup>			
7071.3 14	1/2 <sup>+</sup>			E(level): 7073 3 in 1982Sm04.
7173.6 13	9/2 <sup>+</sup>			
7227.2 8	9/2 <sup>-</sup>			
7280.0 16	(1/2 <sup>+</sup> ,3/2,5/2 <sup>+</sup> )			
7477.1 9	7/2 <sup>-</sup>			
7550 2	3/2			
7578 2	5/2 <sup>+</sup>			
7679 1	(7/2,9/2 <sup>+</sup> )			
7858 <sup>‡</sup> 2	3/2 <sup>+</sup>			
8037 1	7/2			E(level): 8039 3 in 1982Sm04.
8065 2	(3/2,5/2) <sup>+</sup>			
8182.1 13	3/2 <sup>-</sup>			
8420 1				
8442 1	7/2			
8489.6 12		<0.9 <sup>a</sup> keV		
8536.1 19		<2.0 <sup>a</sup> keV		
8552.3 1		<0.04 <sup>b</sup> keV	0.012 <sup>g</sup> 2	
8597.0 1		0.56 <sup>&amp;</sup> eV 4	0.50 <sup>g</sup> 3	
8708.1 1		7.6 <sup>&amp;</sup> eV 6	2.5 <sup>h</sup> 2	
8716.0 5		<0.8 keV	0.07 <sup>h</sup>	
8731.6 4		0.19 <sup>&amp;</sup> eV 3	0.017 4	
8753.0 5		1.05 <sup>&amp;</sup> eV 13	0.008 3	
8773.6 5		3.7 <sup>&amp;</sup> eV 3	0.02 <sup>h</sup>	
8896.6 5		0.86 <sup>&amp;</sup> eV 17	0.21 6	
8904.4 8		<0.7 keV	0.04 <sup>h</sup>	
8908.6 5		<0.5 keV	1.3 3	
8962.9 1		<0.06 <sup>c</sup> keV	0.53 <sup>i</sup> 10	
9050.4 1		<0.06 <sup>c</sup> keV	0.60 <sup>i</sup> 8	
9051.0 1		<0.06 <sup>c</sup> keV	1.1 <sup>i</sup> 2	
9079.8 1		0.240 <sup>c</sup> keV 25	1.9 <sup>i</sup> 3	
9189.7 1		<0.07 <sup>c</sup> keV	1.7 4	
9215.8 1		<0.07 <sup>c</sup> keV	1.0 3	
9235.5 8		0.013 <sup>d</sup> keV 11	3.0 9	
9239.1 8		<0.6 keV	0.6 2	
9271.1 8		<0.6 keV	0.19 7	
9273.8 8		<0.8 keV	0.9 4	
9276.4 8		0.10 <sup>d</sup> keV 3	1.4 4	
9307.7 9		<0.7 keV	0.26 7	
9358.9 10		<0.6 keV	0.05 <sup>h</sup>	
9389.6 9		<0.7 keV	0.43 11	
9400.4 9		0.11 <sup>d</sup> keV 5	1.1 3	
9474.0 8		<0.7 keV	1.1 3	
9501.3 10		<0.7 keV	0.05 <sup>h</sup>	
9511.1 9		<0.7 keV	3.3 8	

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$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24 (continued) $^{27}\text{Al}$  Levels (continued)

E(level) <sup>f</sup>	T <sub>1/2</sub> @	S <sup>f</sup>
9598.8 14	2.5 <sup>d</sup> keV 2	
9600.4 9	12 <sup>&amp;</sup> eV 2	5.3 13
9628.1 9	2.76 <sup>d</sup> keV 14	3.6 9
9634.2 9	0.018 <sup>d</sup> keV 5	3.0 8
9664.3 8	0.024 <sup>d</sup> keV 8	2.3 <sup>h</sup> 5
9664.4 20	5.82 <sup>d</sup> keV 10	
9715.6 8		0.20 7
9762.5 8	0.018 <sup>e</sup> keV	5.8 15
9796.0 9	4 <sup>&amp;</sup> eV 3	0.37 9
9821.3 9	18 <sup>&amp;</sup> eV	4.9 12
9834.1 10	3.0 <sup>e</sup> keV	0.9 3
9839.4 10	1.0 <sup>&amp;</sup> eV 2	0.5 2
9846.3 10	0.21 <sup>e</sup> keV	1.6 4
9921.6 9	1.8 <sup>e</sup> keV	3.3 10
9930.2 9	1.35 <sup>e</sup> keV	2.7 8
9941.1 9		1.1 3
9952.7 16		0.07 <sup>j</sup>
9955.2 10		1.1 4
9960.1 9	0.008 <sup>e</sup> keV	2.0 10
9962.6 9	12 <sup>e</sup> eV	6.2 19
9976.6 9		0.54 14
9990.6 9	10 <sup>e</sup> eV	4.4 11
9999.6 10		0.7 2
10024.3 9	0.035 <sup>e</sup> keV	2.9 7
10089.4 9	2.7 <sup>e</sup> keV	2.0 6
10092.8 9	0.47 <sup>e</sup> keV	3.3 12
10111.8 9	0.015 <sup>e</sup> keV	
10112.3 9	0.040 <sup>e</sup> keV	8 <sup>h</sup> 3
10121.1 10		0.64 16
10134.9 11		0.42 11
10164.6 9	0.014 <sup>e</sup> keV	9.5 9
10218 3	40.9 <sup>e</sup> keV	33 9
10243.4 9	0.13 <sup>e</sup> keV	21 <sup>h</sup>
10244 3	70.4 <sup>e</sup> keV	
10244.6 9	0.075 <sup>e</sup> keV	
10258.4 10		2.9 12
10287 2		1.9 5
10307 2		1.7 4
10318 2		0.52 13
10333 2	1.1 <sup>e</sup> keV	10 <sup>j</sup>
10334 2	5.6 <sup>e</sup> keV	
10338 2	1.3 <sup>e</sup> keV	5.0 17
10340 2		(1.3) <sup>j</sup>
10348 2		2.5 6
10365 2		1.2 3
10370 2	0.045 <sup>e</sup> keV	
10372 2	0.45 <sup>e</sup> keV	19
10409 2	0.037 <sup>e</sup> keV	9
10422 2		6.3
10459 2	0.070 <sup>e</sup> keV	1.7
10478 3		(0.9)

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$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24 (continued) $^{27}\text{Al}$  Levels (continued)

E(level) <sup>†</sup>	T <sub>1/2</sub> @	S <sup>f</sup>	Comments
10480 3	0.65 <sup>e</sup> keV	9	
10509 2	0.12 <sup>e</sup> keV	7	
10519 2		0.17	
10528 2	0.3 <sup>e</sup> keV	2.3	
10555 2		8.5	
10558 2	30 <sup>e</sup> keV		
10566 2	0.14 keV	10	T <sub>1/2</sub> : Width from 1980Is04.
10588 2	1.4 <sup>e</sup> keV	24	
10593 3	0.010 <sup>e</sup> keV	2.5	
10599 3	0.49 <sup>e</sup> keV	2.5	
10612 3	10.2 <sup>e</sup> keV	7	
10626 2	0.065 <sup>e</sup> keV	3.9	
10630 3		(0.5)	
10634 3	0.90 <sup>e</sup> keV	(0.3)	
10648 2	0.135 <sup>e</sup> keV	10	
10675 2	0.11 <sup>e</sup> keV	14	
10676 2		(7)	
10692 2	0.015 <sup>e</sup> keV	5	
10716 2	0.18 <sup>e</sup> keV	14	
10723 2		2.2	
10737 2	2.1 <sup>e</sup> keV	7	
10751		5	
10768 3		(0.13)	
10778 3		(0.19)	
10781 3		1.3	
10783 3		0.7	
10791 3		(0.06)	
10804 2	0.8 <sup>e</sup> keV	2.4	
10833 2	0.34 <sup>e</sup> keV	5.7	
10835 3	0.8 <sup>e</sup> keV		
10836 3	0.6 <sup>e</sup> keV	(1.9)	
10838 3	8.0 <sup>e</sup> keV	4.4	
10864 2	0.04 <sup>e</sup> keV	4.4	
10871 3		(0.7)	
10900 3		0.3	
10911 3	2.9 <sup>e</sup> keV	2.0	
10922 3	0.016 <sup>e</sup> keV		
10922 3	2.8 <sup>e</sup> keV 10	3.2	
10931 3	1.2 <sup>e</sup> keV 8	29	
10939 3		1.1	
10970 3		1.2	
10973 3	0.33 <sup>e</sup> keV	6	
10994 3		2.1	
11003 3	0.008 <sup>e</sup> keV	4.4	
11012 3	0.035 <sup>e</sup> keV	0.7	
11072 3	0.26 <sup>e</sup> keV	8	
11075 3		1.3	
11077 3		(0.3)	
11096 3	1.4 <sup>e</sup> keV	1.5	
11101 4	5.5 <sup>e</sup> keV	11	
11126 3	0.015 <sup>e</sup> keV	1.6	
11138 3		0.5	
11188			E(level): Additional 54 levels between 11188 and 12118 keV are from (p, $\gamma$ ) and/or

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 $^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24 (continued)
 $^{27}\text{Al}$  Levels (continued)

E(level) <sup>f</sup>	Comments
11702	(p,p) reported in 1980Is04. E(level): Additional 64 levels between 11702 and 12875 keV are from ( $\alpha,\gamma$ ) and/or ( $\alpha,\text{p}$ ) (1964Ku10,1971De23).

<sup>f</sup> Up to 8442 keV from Adopted Levels, except otherwise noted. The resonance levels above 8420 keV deduced by the evaluator are from  $E_p$  (1980Bu14,1985Uh01,1963Va24,1978Ma24,1974Ro24,1980Is04,1980Ke03, 1982Sm04) and  $S_p=8271.13$  11 (2011AuZZ).

<sup>‡</sup> From 1982Sm04.

<sup>#</sup> From Adopted Levels.

<sup>@</sup>  $T_{1/2}$  or  $\Gamma$ .  $T_{1/2}$  from 1982An11 (reported meanlife), measured by the Doppler Shift Attenuation (DSA) method. For resonance levels, the width (keV) is listed from 1980Ke03 and 1963Va24 (for below and above  $E_p=2.07$  MeV (10258 keV excitation), respectively), except otherwise noted.

<sup>&</sup> Deduced from evaluated partial widths in 1987Vo01 and 1990Ch21.

<sup>a</sup> From 1980Bu14.

<sup>b</sup> From 1985Uh01.

<sup>c</sup> From 1978Ma24.

<sup>d</sup> From 1967Wa24 ( $P,P_0$ ).

<sup>e</sup> From 1978We06 ( $P,P_0$ ).

<sup>f</sup> From 1982Sm04 (for levels < 10370 keV) and from 1963Va24 (for levels > 10370 keV) in units of eV, except otherwise noted.

<sup>g</sup> From 1990Il01.

<sup>h</sup> From 1980Ke03.

<sup>i</sup> From 1978Ma24, renormalized to calibrate with  $S=9.5(9)$  from 5.7(8) ev for  $E_p=1966$  keV (Excitation energy: 10164.6 keV).

<sup>j</sup> From 1963Va24.

 $\gamma(^{27}\text{Al})$ 

E( $\gamma$ )	J $^\pi$	E $_\gamma$ <sup>†</sup>	I $_\gamma$ <sup>@</sup>	E $_f$	J $^\pi_f$	Mult. <sup>g</sup>	$\delta^h$	Comments
843.76	1/2 $^+$	843.76 <sup>‡</sup> 10	100	0	5/2 $^+$	(E2)		
1014.56	3/2 $^+$	170.82 <sup>‡</sup> 10	2.0 8	843.76	1/2 $^+$	D+(Q)	+0.05 6	
		1014.52 <sup>‡</sup> 10	100.0 8	0	5/2 $^+$	D+Q	-0.351 12	
2211.1	7/2 $^+$	2211.0	100	0	5/2 $^+$	D+Q	+0.468 9	
2734.9	5/2 $^+$	523.7	0.53& 19	2211.1	7/2 $^+$			
		1720.3	100& 3	1014.56	3/2 $^+$	D+Q	+0.115 8	
		1891.0	2.38& 19	843.76	1/2 $^+$			
		2734.7	29.2& 14	0	5/2 $^+$	D+Q	+0.19 3	
2982.00	3/2 $^+$	770.8	<0.2100&	2211.1	7/2 $^+$			
		1967.47	1.6& 5	1014.56	3/2 $^+$			
		2138.14	1.0& 3	843.76	1/2 $^+$			
		2982.00	100& 3	0	5/2 $^+$	D+(Q)	-0.01 1	E $_\gamma$ : From 1987Ko33.
3004.2	9/2 $^+$	793.0	13.6 23	2211.1	7/2 $^+$	D+(Q)	-0.01 2	
		1989.6	<4.5	1014.56	3/2 $^+$			
		2160.3	<0.9	843.76	1/2 $^+$			
		3004.0	100 2	0	5/2 $^+$	Q		
3680.4	1/2 $^+$	676.1	<0.6	3004.2	9/2 $^+$			
		698.3	<3.2	2982.00	3/2 $^+$			
		945.4	<0.5	2734.9	5/2 $^+$			
		1469.2	<0.5	2211.1	7/2 $^+$			

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**$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24 (continued)**

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$\gamma(^{27}\text{Al})$  (continued)

$E_i$ (level)	$J_i^\pi$	$E_\gamma^{\dagger}$	$I_\gamma @$	$E_f$	$J_f^\pi$	Mult. $\mathcal{g}$	$\delta^h$
3680.4	1/2 <sup>+</sup>	2665.8	60 3	1014.56	3/2 <sup>+</sup>		
		2836.4	100 3	843.76	1/2 <sup>+</sup>		
		3680.1	1.9 6	0	5/2 <sup>+</sup>		
		276.3	<2.3	3680.4	1/2 <sup>+</sup>		
		952.5	<0.7	3004.2	9/2 <sup>+</sup>		
		974.7	<1.0	2982.00	3/2 <sup>+</sup>		
		1221.8	6.6 17	2734.9	5/2 <sup>+</sup>		
		1745.6	<0.6	2211.1	7/2 <sup>+</sup>		
		2942.1	4.3 14	1014.56	3/2 <sup>+</sup>		
		3112.8	5.3 17	843.76	1/2 <sup>+</sup>		
4054.6	1/2 <sup>-</sup>	3956.4	100.0 23	0	5/2 <sup>+</sup>		
		374.1	<0.6	3680.4	1/2 <sup>+</sup>		
		1050.3	<0.3	3004.2	9/2 <sup>+</sup>		
		1072.5	<0.8	2982.00	3/2 <sup>+</sup>		
		1319.6	<0.3	2734.9	5/2 <sup>+</sup>		
		1843.4	<2.3	2211.1	7/2 <sup>+</sup>		
		3039.9	16.3 23	1014.56	3/2 <sup>+</sup>		
		3210.6	100.0 23	843.76	1/2 <sup>+</sup>		
		4054.2	<2.3	0	5/2 <sup>+</sup>		
		453.3	<1.7	3956.8	3/2 <sup>+</sup>		
4410.2	5/2 <sup>+</sup>	729.7	<1.6	3680.4	1/2 <sup>+</sup>		
		1405.9	<0.7 &	3004.2	9/2 <sup>+</sup>		
		1428.1	<0.5 &	2982.00	3/2 <sup>+</sup>		
		1675.2	5.3 18	2734.9	5/2 <sup>+</sup>		
		2199.0	8.8 18	2211.1	7/2 <sup>+</sup>		
		3395.5	61 5	1014.56	3/2 <sup>+</sup>	M1+(E2)	-0.01 3
		3566.1	<1.9 &	843.76	1/2 <sup>+</sup>		
		4409.8	100 5	0	5/2 <sup>+</sup>	M1+E2	-0.04 2
		553.4	<5.1 <i>f</i>	3956.8	3/2 <sup>+</sup>		
		829.8	<7.8 <i>f</i>	3680.4	1/2 <sup>+</sup>		
4510.3	11/2 <sup>+</sup>	1506.0	30 3	3004.2	9/2 <sup>+</sup>	M1+E2	+0.59 2
		1528.2	<5.2 <i>f</i>	2982.00	3/2 <sup>+</sup>		
		1775.3	<7.8 <i>f</i>	2734.9	5/2 <sup>+</sup>		
		2299.0	100 3	2211.1	7/2 <sup>+</sup>	(E2)	
		3495.6	<5.2 <i>f</i>	1014.56	3/2 <sup>+</sup>		
		3666.2	<5.2 <i>f</i>	843.76	1/2 <sup>+</sup>		
		4509.8	<1.0 <i>f</i>	0	5/2 <sup>+</sup>		
		623.1	<5.6	3956.8	3/2 <sup>+</sup>		
		899.5	<1	3680.4	1/2 <sup>+</sup>		
		1575.7	<5.6	3004.2	9/2 <sup>+</sup>		
4580.0	7/2 <sup>+</sup>	1597.9	<2.8	2982.00	3/2 <sup>+</sup>		
		1845.0	10.6 21	2734.9	5/2 <sup>+</sup>	M1+E2	-0.003
		2368.7	24 3	2211.1	7/2 <sup>+</sup>	M1+E2	-0.08 6
		3565.2	6.3 21	1014.56	3/2 <sup>+</sup>		
		3735.9	<11	843.76	1/2 <sup>+</sup>		
		4579.5	100 4	0	5/2 <sup>+</sup>	M1+E2	+0.21 2
		854.7	<1.1	3956.8	3/2 <sup>+</sup>		
		1131.1	<1.1	3680.4	1/2 <sup>+</sup>		
		1807.3	<4.4	3004.2	9/2 <sup>+</sup>		
		1829.5	13 5	2982.00	3/2 <sup>+</sup>	M1+E2	-0.06 3
4811.6	5/2 <sup>+</sup>	2076.6	<2.2	2734.9	5/2 <sup>+</sup>		
		2600.3	38 5	2211.1	7/2 <sup>+</sup>	M1+E2	+0.19 6
		3796.8	100 5	1014.56	3/2 <sup>+</sup>	M1+E2	-0.08 4

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**$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24 (continued)**

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$\gamma(^{27}\text{Al})$  (continued)

$E_i$ (level)	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma @$	$E_f$	$J_f^\pi$	Mult. $g$	$\delta^h$
4811.6	$5/2^+$	3967.5	<4.4	843.76	$1/2^+$		
		4811.1	71 5	0	$5/2^+$		
5155.6	$3/2^-$	1198.7	<1.2	3956.8	$3/2^+$	M1+E2	-0.47 6
		1475.1	<2.5	3680.4	$1/2^+$		
		2151.3	<2.5	3004.2	$9/2^+$		
		2173.5	<3.8	2982.00	$3/2^+$		
		2420.5	<2.5	2734.9	$5/2^+$		
		2944.3	<6.2	2211.1	$7/2^+$		
		4140.8	25 4	1014.56	$3/2^+$		
		4311.4	<6.3	843.76	$1/2^+$		
		5155.0	100 4	0	$5/2^+$		
5248.0	$5/2^+$	1291.1	4.7 14	3956.8	$3/2^+$		
		1567.5	<2.8	3680.4	$1/2^+$		
		2243.7	<1.4	3004.2	$9/2^+$		
		2265.8	2.5 4	2982.00	$3/2^+$		
		2512.9	5.6 14	2734.9	$5/2^+$		
		3036.7	22 3	2211.1	$7/2^+$		
		4233.1	100 4	1014.56	$3/2^+$	D+Q	+0.03 1
		4403.8	<1.7	843.76	$1/2^+$		
		5247.4	1.9 6	0	$5/2^+$		
5419.9	$9/2^+$	1739.4	<2.3	3680.4	$1/2^+$		
		2415.5	<4.6	3004.2	$9/2^+$		
		2437.7	<3.5	2982.00	$3/2^+$		
		2684.8	9.2 <sup>a</sup> 11	2734.9	$5/2^+$		
		3208.5	100 <sup>a</sup> 3	2211.1	$7/2^+$	M1+E2	+0.29 4
		5419.3	6.9 <sup>a</sup> 23	0	$5/2^+$		
5432.8	$7/2$	2428.4	69 13	3004.2	$9/2^+$	D+Q	+0.06 4
		2697.7	<13	2734.9	$5/2^+$		
		3221.4	48 13	2211.1	$7/2^+$		
		5432.2	100 13	0	$5/2^+$		
5438.4	$5/2^-$	2434.0	<1.2 <sup>&amp;</sup>	3004.2	$9/2^+$		
		2456.2	4.8 <sup>&amp;</sup> 12	2982.00	$3/2^+$		
		2703.3	15.7 <sup>&amp;</sup> 24	2734.9	$5/2^+$		
		3227.0	<2.4 <sup>&amp;</sup>	2211.1	$7/2^+$		
		4423.5	<1.2 <sup>&amp;</sup>	1014.56	$3/2^+$		
		4594.2	<3.6 <sup>&amp;</sup>	843.76	$1/2^+$		
		5437.8	100.0 <sup>&amp;</sup> 24	0	$5/2^+$		
5499.8	$11/2^+$	989.4	5.3 <sup>a</sup> 14	4510.3	$11/2^+$		
		1542.9	<2.6	3956.8	$3/2^+$		
		1819.3	<2.6	3680.4	$1/2^+$		
		2495.4	100 <sup>b</sup> 3	3004.2	$9/2^+$	M1+E2	+0.29 2
		2517.6	<2.6	2982.00	$3/2^+$		
		2764.7	<6.5	2734.9	$5/2^+$		
		3288.4	26 <sup>b</sup> 3	2211.1	$7/2^+$		
		4484.9	<2.6	1014.56	$3/2^+$		
		4655.6	<3.9	843.76	$1/2^+$		
		5499.1	<2.6	0	$5/2^+$		
5550.9	$5/2$	1594.0	<4.0	3956.8	$3/2^+$		
		1870.4	<4.6	3680.4	$1/2^+$		
		2546.5	<9.3	3004.2	$9/2^+$		
		2568.7	7.3 7	2982.00	$3/2^+$		
		2815.8	4.5 7	2734.9	$5/2^+$		
		3339.5	8.1 7	2211.1	$7/2^+$		

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**$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24 (continued)**

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$\gamma(^{27}\text{Al})$  (continued)

E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>γ</sub> <sup>†</sup>	I <sub>γ</sub> <sup>@</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult. <sup>g</sup>	$\delta^h$
5550.9	5/2	4536.0	13.2 7	1014.56	3/2 <sup>+</sup>		
		4706.6	<4.0 <sup>&amp;</sup>	843.76	1/2 <sup>+</sup>		
		5550.2	100.0 20	0	5/2 <sup>+</sup>		
		1156.9	20 <sup>a</sup> 8	4510.3	11/2 <sup>+</sup>	(M1)	
5667.3	9/2 <sup>+</sup>	2662.9	100 <sup>a</sup> 13	3004.2	9/2 <sup>+</sup>	(M1+E2)	-0.17 5
		5666.6	62 <sup>a</sup> 13	0	5/2 <sup>+</sup>	(E2)	
		1794.7	17 <sup>b</sup> 6	3956.8	3/2 <sup>+</sup>		
5751.6	1/2 <sup>+</sup>	2071.1	37 <sup>c</sup> 6	3680.4	1/2 <sup>+</sup>		
		2747.2	<11.4 <sup>&amp;</sup>	3004.2	9/2 <sup>+</sup>		
		2769.4	83 <sup>c</sup> 6	2982.00	3/2 <sup>+</sup>		
		3016.5	<2.8 <sup>&amp;</sup>	2734.9	5/2 <sup>+</sup>		
		3540.2	<2.8 <sup>&amp;</sup>	2211.1	7/2 <sup>+</sup>		
		4736.7	49 <sup>c</sup> 6	1014.56	3/2 <sup>+</sup>		
		4907.3	100 <sup>c</sup> 6	843.76	1/2 <sup>+</sup>		
		5750.9	<14.3 <sup>&amp;</sup>	0	5/2 <sup>+</sup>		
		1870.1	2.7 8	3956.8	3/2 <sup>+</sup>		
		2146.5	11 3	3680.4	1/2 <sup>+</sup>		
5827.0	3/2 <sup>-</sup>	2822.6	<2.7	3004.2	9/2 <sup>+</sup>		
		2844.8	<1.3 <sup>&amp;</sup>	2982.00	3/2 <sup>+</sup>		
		3091.9	<1.0	2734.9	5/2 <sup>+</sup>		
		3615.6	<2.7	2211.1	7/2 <sup>+</sup>		
		4812.0	100 3	1014.56	3/2 <sup>+</sup>		
		4982.7	<4.0	843.76	1/2 <sup>+</sup>		
		5826.3	20 <sup>&amp;</sup> 3	0	5/2 <sup>+</sup>		
		1148.6	8 <sup>a</sup> 3	4811.6	5/2 <sup>+</sup>		
		1550.0	5 <sup>a</sup> 3	4410.2	5/2 <sup>+</sup>		
5960.3	7/2	2978.1	13 <sup>a</sup> 6	2982.00	3/2 <sup>+</sup>		
		3225.1	79 <sup>a</sup> 8	2734.9	5/2 <sup>+</sup>		
		3748.9	100 <sup>a</sup> 11	2211.1	7/2 <sup>+</sup>	M1+(E2)	-0.09 10
		5959.5	49 <sup>a</sup> 8	0	5/2 <sup>+</sup>	M1+E2	+0.16 2
		2123.9	9 3	3956.8	3/2 <sup>+</sup>		
		2400.2	<7.1	3680.4	1/2 <sup>+</sup>		
6080.8	3/2	3076.4	<5.7	3004.2	9/2 <sup>+</sup>		
		3098.6	<5.7	2982.00	3/2 <sup>+</sup>		
		5065.8	34 3	1014.56	3/2 <sup>+</sup>		
		5236.4	<5.7	843.76	1/2 <sup>+</sup>		
		6080.0	100 5	0	5/2 <sup>+</sup>		
		960.1	10 <sup>a</sup> 5	5155.6	3/2 <sup>-</sup>		
6115.8	5/2	2158.9	<6.6	3956.8	3/2 <sup>+</sup>		
		3111.4	<4.9	3004.2	9/2 <sup>+</sup>		
		3133.6	18 <sup>a</sup> 10	2982.00	3/2 <sup>+</sup>		
		3380.6	<6.6 <sup>#</sup>	2734.9	5/2 <sup>+</sup>		
		3904.3	36 <sup>a</sup> 14	2211.1	7/2 <sup>+</sup>		
		5100.8	100 <sup>a</sup> 17	1014.56	3/2 <sup>+</sup>	D+(Q)	+0.03 3
		5271.4	<3.3 <sup>#</sup>	843.76	1/2 <sup>+</sup>		
		2477.8	<0.7 <sup>&amp;</sup>	3680.4	1/2 <sup>+</sup>		
6158.4	3/2 <sup>-</sup>	3154.0	<1.0 <sup>&amp;</sup>	3004.2	9/2 <sup>+</sup>		
		3176.1	2.0 7	2982.00	3/2 <sup>+</sup>		
		3423.2	6.8 <sup>c</sup> 14	2734.9	5/2 <sup>+</sup>		
		3946.9	<5.4 <sup>&amp;</sup>	2211.1	7/2 <sup>+</sup>		
		5143.4	15 <sup>b</sup> 3	1014.56	3/2 <sup>+</sup>		

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**$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24 (continued)**

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$\gamma(^{27}\text{Al})$  (continued)

$E_i$ (level)	$J_i^\pi$	$E_\gamma^\dagger$	$I_\gamma @$	$E_f$	$J_f^\pi$	Mult. $\mathcal{B}$	$\delta^h$
6158.4	$3/2^-$	5314.0	100 3	843.76	$1/2^+$		
		6157.6	9.5 <sup>c</sup> 14	0	$5/2^+$		
6284.7	$7/2^+$	864.7	3.4 <sup>a</sup> 17	5419.9	$9/2^+$		
		1874.4	7 <sup>a</sup> 4	4410.2	$5/2^+$		
		3280.2	14 <sup>a</sup> 9	3004.2	$9/2^+$		
		4073.2	45 <sup>d</sup> 5	2211.1	$7/2^+$	D+Q	-0.40 8
		6283.9	100 <sup>d</sup> 5	0	$5/2^+$	D+Q	+0.06 3
6462.8	$5/2$	3480.5	7.1 24	2982.00	$3/2^+$		
		5447.7	12 4	1014.56	$3/2^+$		
		6461.9	100 5	0	$5/2^+$	D+(Q)	+0.03 3
6477.3	$7/2^-$	3742.1	30.8 <sup>a</sup> 16	2734.9	$5/2^+$	D+(Q)	-0.035 35
		4265.8	18.5 <sup>a</sup> 16	2211.1	$7/2^+$	D+(Q)	+0.07 9
		6476.4	100 <sup>a</sup> 3	0	$5/2^+$	D+Q	+0.074 15
6512.2	$9/2$	2001.8	100 <sup>e</sup> 9	4510.3	$11/2^+$	D+Q	+0.09 4
		3507.7	66 <sup>e</sup> 9	3004.2	$9/2^+$	D+(Q)	-0.09 13
		4300.7	47 <sup>e</sup> 9	2211.1	$7/2^+$		
6533	$7/2^+$	1100.1	9 <sup>a</sup> 3	5432.8	$7/2$		
		1952.9	40 <sup>a</sup> 9	4580.0	$7/2^+$	D+(Q)	-0.16 15
		3528.5	43 <sup>a</sup> 12	3004.2	$9/2^+$		
		3797.8	43 <sup>a</sup> 9	2734.9	$5/2^+$		
		4321.5	100 <sup>a</sup> 18	2211.1	$7/2^+$	D+(Q)	-0.2 2
		6532.1	51 <sup>a</sup> 12	0	$5/2^+$	D+Q	>10
6605.1	$3/2^-$	2924.5	66 <sup>a</sup> 14	3680.4	$1/2^+$		
		3622.8	30 <sup>a</sup> 9	2982.00	$3/2^+$		
		5760.6	100 <sup>a</sup> 18	843.76	$1/2^+$		
		6604.2	34 <sup>a</sup> 16	0	$5/2^+$		
6651.3	$5/2^-$	3646.8	<11.4	3004.2	$9/2^+$		
		3669.0	2.3 8	2982.00	$3/2^+$		
		3916.0	<6.8	2734.9	$5/2^+$		
		4439.8	<5.7	2211.1	$7/2^+$		
		5636.2	11 3	1014.56	$3/2^+$		
		5806.8	<3.4	843.76	$1/2^+$		
		6650.4	100 3	0	$5/2^+$	D+(Q)	+0.04 4
6713	$9/2^+$	2132.9	14.1 <sup>a</sup> 14	4580.0	$7/2^+$		
		3708.5	100 <sup>a</sup> 5	3004.2	$9/2^+$	D+(Q)	-0.06 7
		3977.7	7.0 <sup>a</sup> 14	2734.9	$5/2^+$	(E2)	
		4501.4	19.7 <sup>a</sup> 14	2211.1	$7/2^+$	D	
6765	$5/2$	2184.9	25 <sup>a</sup> 3	4580.0	$7/2^+$		
		2808.0	25 <sup>a</sup> 3	3956.8	$3/2^+$		
		3760.5	<6	3004.2	$9/2^+$		
		3782.7	100 <sup>a</sup> 8	2982.00	$3/2^+$		
		4029.7	61 <sup>a</sup> 6	2734.9	$5/2^+$		
		5749.8	53 <sup>a</sup> 3	1014.56	$3/2^+$		
		5920.5	<6	843.76	$1/2^+$		
		6764.0	19 6	0	$5/2^+$		
6776.3	$3/2$	2365.9	19 <sup>a</sup> 8	4410.2	$5/2^+$		
		3095.7	34 11	3680.4	$1/2^+$		
		3794.0	46 11	2982.00	$3/2^+$		
		5931.8	100 11	843.76	$1/2^+$		
		6775.3	32 11	0	$5/2^+$		
6813.8	$1/2^+$	3133.2	11.1 4	3680.4	$1/2^+$		
		3831.5	<4.2	2982.00	$3/2^+$		
		4078.5	<2.8	2734.9	$5/2^+$		

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 **$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24 (continued)**


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 $\gamma(^{27}\text{Al})$  (continued)

$E_i$ (level)	$J^\pi_i$	$E_\gamma^{\dagger}$	$I_\gamma @$	$E_f$	$J^\pi_f$	Mult. <i>g</i>	$\delta^h$
6813.8	1/2 <sup>+</sup>	4602.2	<2.8	2211.1	7/2 <sup>+</sup>		
		5798.6	100 4	1014.56	3/2 <sup>+</sup>		
		5969.3	28 4	843.76	1/2 <sup>+</sup>		
6820.7	(3/2,7/2) <sup>+</sup>	6819.7	100.0	0	5/2 <sup>+</sup>		
6992.9	5/2 <sup>-</sup>	4781.3	100 <sup>a</sup> 24	2211.1	7/2 <sup>+</sup>		
		6991.9	69 <sup>a</sup> 24	0	5/2 <sup>+</sup>		
6996	(1/2,3/2) <sup>-</sup>	390	5 <sup>a</sup> 3	6605.1	3/2 <sup>-</sup>		
		1840	9 <sup>a</sup> 5	5155.6	3/2 <sup>-</sup>		
		3039	16 <sup>a</sup> 9	3956.8	3/2 <sup>+</sup>		
		6151	100 <sup>a</sup> 14	843.76	1/2 <sup>+</sup>		
7071.3	1/2 <sup>+</sup>	6056.1	100 <sup>a</sup> 13	1014.56	3/2 <sup>+</sup>		
		6226.7	25 <sup>a</sup> 13	843.76	1/2 <sup>+</sup>		
7173.6	9/2 <sup>+</sup>	1740.7	55 <sup>a</sup> 26	5432.8	7/2		
		2593.4	100 <sup>a</sup> 42	4580.0	7/2 <sup>+</sup>	D+Q	-0.17 10
		2663.1	52 <sup>a</sup> 26	4510.3	11/2 <sup>+</sup>		
		4169.0	90 <sup>a</sup> 48	3004.2	9/2 <sup>+</sup>	D+(Q)	-0.05 11
		4962.0	29 <sup>a</sup> 10	2211.1	7/2 <sup>+</sup>		
7227.2	9/2 <sup>-</sup>	1807.2	2.8 <sup>a</sup> 14	5419.9	9/2 <sup>+</sup>		
		2647.0	6.9 <sup>a</sup> 14	4580.0	7/2 <sup>+</sup>		
		4222.6	27 <sup>a</sup> 3	3004.2	9/2 <sup>+</sup>	D+(Q)	+0.06 15
		5015.6	100 <sup>a</sup> 4	2211.1	7/2 <sup>+</sup>	D+Q	-0.05 3
		7226.1	<4.1 <sup>#</sup>	0	5/2 <sup>+</sup>		
7280.0	(1/2 <sup>+,3/2,5/2<sup>+</sup>)</sup>	7278.9	100.0	0	5/2 <sup>+</sup>		
7477.1	7/2 <sup>-</sup>	5265.4	37 7	2211.1	7/2 <sup>+</sup>		
		7475.9	100 7	0	5/2 <sup>+</sup>	D+(Q)	+0.06 11
7550	3/2	7548	100	0	5/2 <sup>+</sup>		
7578	5/2 <sup>+</sup>	7576	100	0	5/2 <sup>+</sup>	M1+E2	+0.09 4
7679	(7/2,9/2 <sup>+</sup> )	6661	21 7	1014.56	3/2 <sup>+</sup>		
		7675.3	100 14	0	5/2 <sup>+</sup>		
7858	3/2 <sup>+</sup>	4853	<32	3004.2	9/2 <sup>+</sup>		
		4875	<32	2982.00	3/2 <sup>+</sup>		
		5122	86 23	2734.9	5/2 <sup>+</sup>		
		5646	<23	2211.1	7/2 <sup>+</sup>		
		6842	<41	1014.56	3/2 <sup>+</sup>		
		7013	73 18	843.76	1/2 <sup>+</sup>		
		7856	100 18	0	5/2 <sup>+</sup>		
8037	7/2	8035.7	100	0	5/2 <sup>+</sup>	D+Q	+0.09 3
8065	(3/2,5/2) <sup>+</sup>	8063	100	0	5/2 <sup>+</sup>		

<sup>†</sup> Deduced by the evaluator from level energy differences.

<sup>‡</sup> From Adopted Gammas.

<sup>#</sup> From 1967Val15.

@ Branching from 1982Sm04, except otherwise noted. For branching from 8489.6-, 8552.3-, and 8597-keV resonance levels, please see 2010Li22, 1990Il01 and 1980Bu14.

& Branching from 1978Ma24.

<sup>a</sup> Branching from 1988Li31.

<sup>b</sup> Weighted average of data from 1988Li31 and 1982Sm04.

<sup>c</sup> Weighted average of data from 1988Li31, 1982Sm04 and 1978Ma24.

<sup>d</sup> Weighted average of data from 1974Ro24, 1982Sm04 and 1988Li31.

<sup>e</sup> Weighted average of data from 1988Li31 and 1971De23 ( $^{23}\text{Na}(\alpha,\gamma)$ ).

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 $^{26}\text{Mg}(\text{p},\gamma)$     1982Sm04,1978Ma24,1963Va24 (continued) $\gamma(^{27}\text{Al})$  (continued)

<sup>f</sup> From 1988Li31, 1982Sm04, 1978Ma24, 1967Va15, etc.

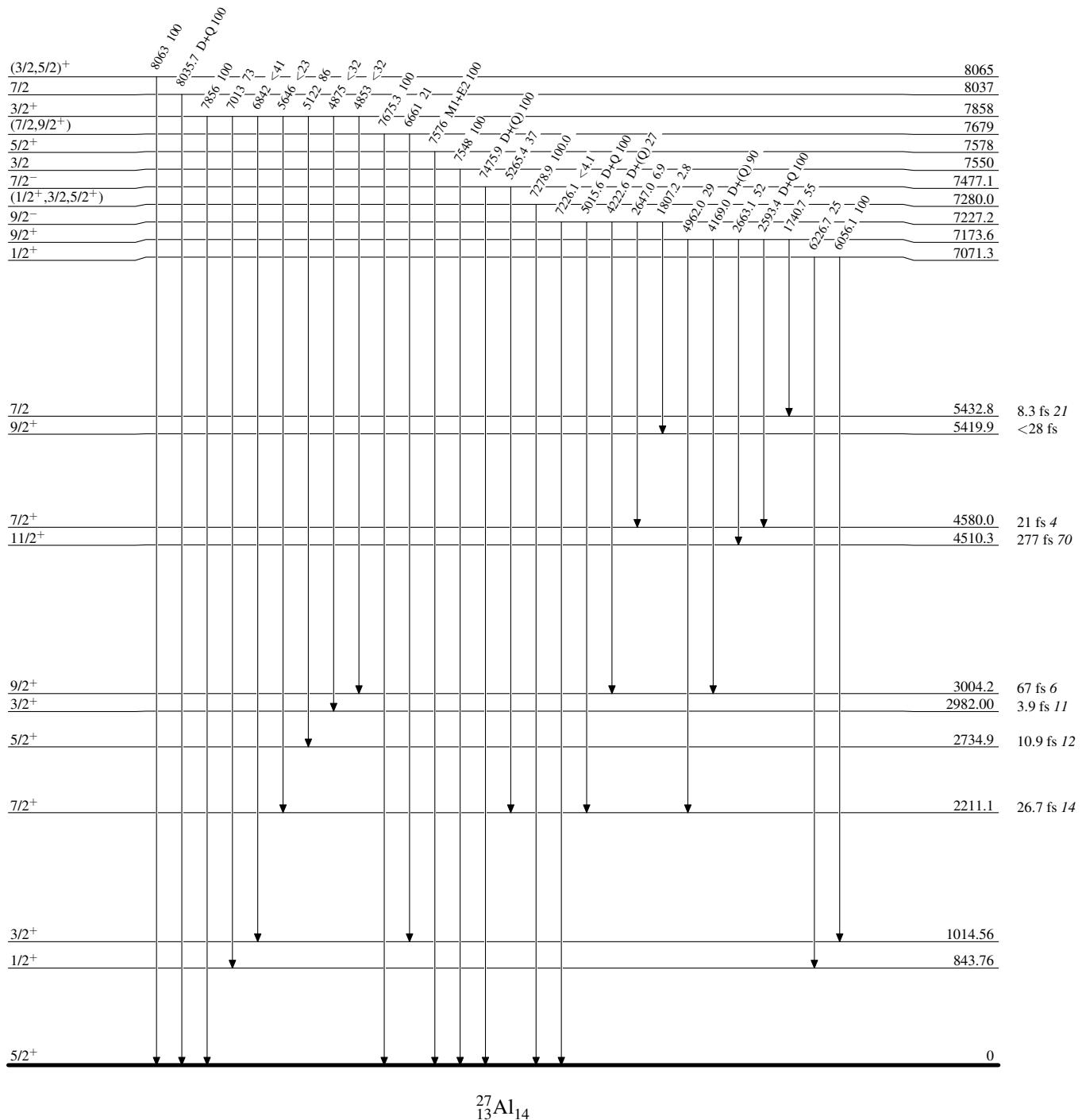
<sup>g</sup> Assigned by the evaluator based on mixing ratio data and transition rate comparison of experimental and calculated data reported in 1988Li31.

<sup>h</sup> From 1988Li31, 1971Lu11, 1969Bi06, 1968Ha20, 1967Sh06, and 1961Mc08. Sign convention as of the ENSDF policy.

$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04, 1978Ma24, 1963Va24

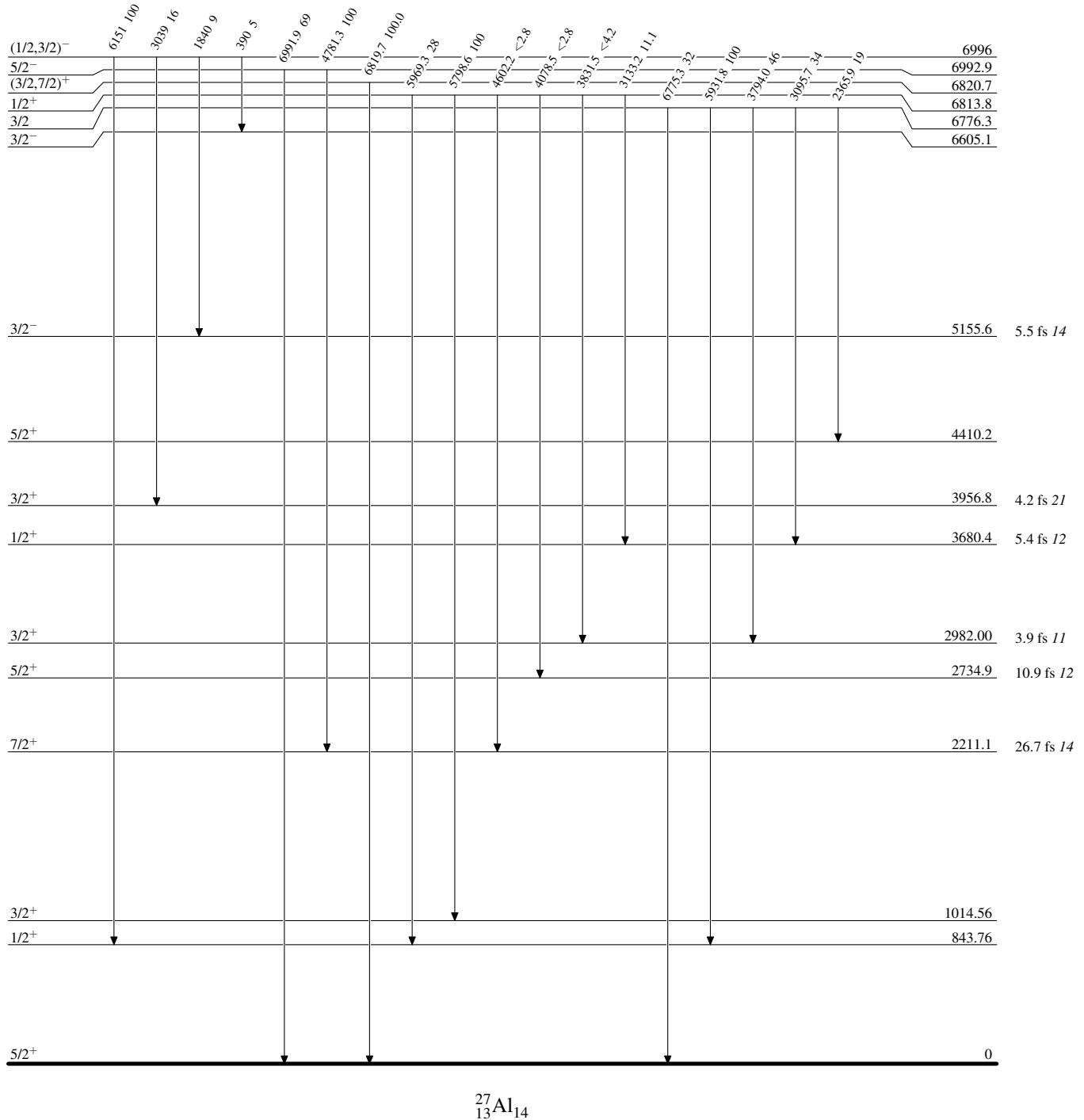
## Level Scheme

Intensities: Relative photon branching from each level



$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24Level Scheme (continued)

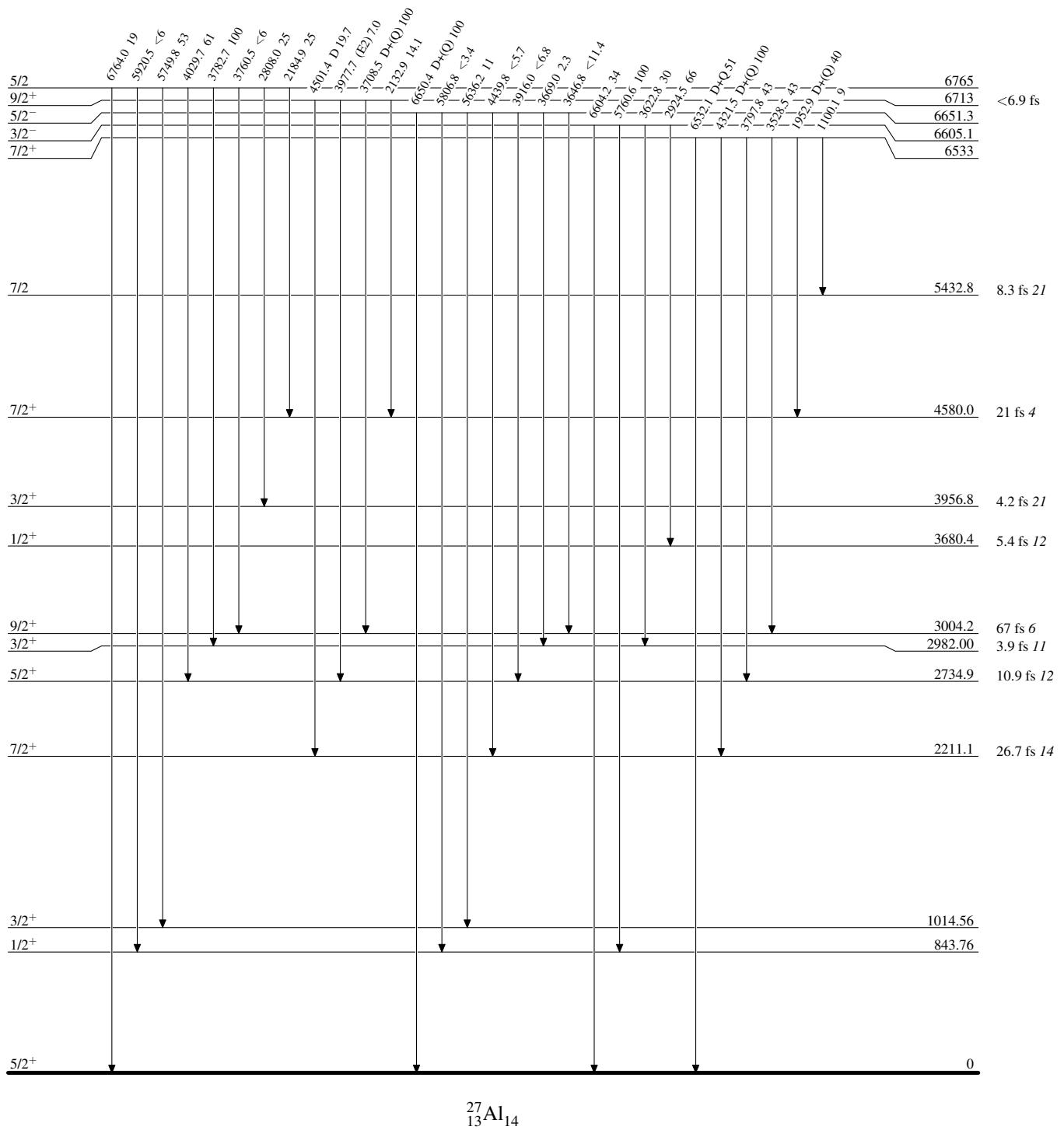
Intensities: Relative photon branching from each level



$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04, 1978Ma24, 1963Va24

## Level Scheme (continued)

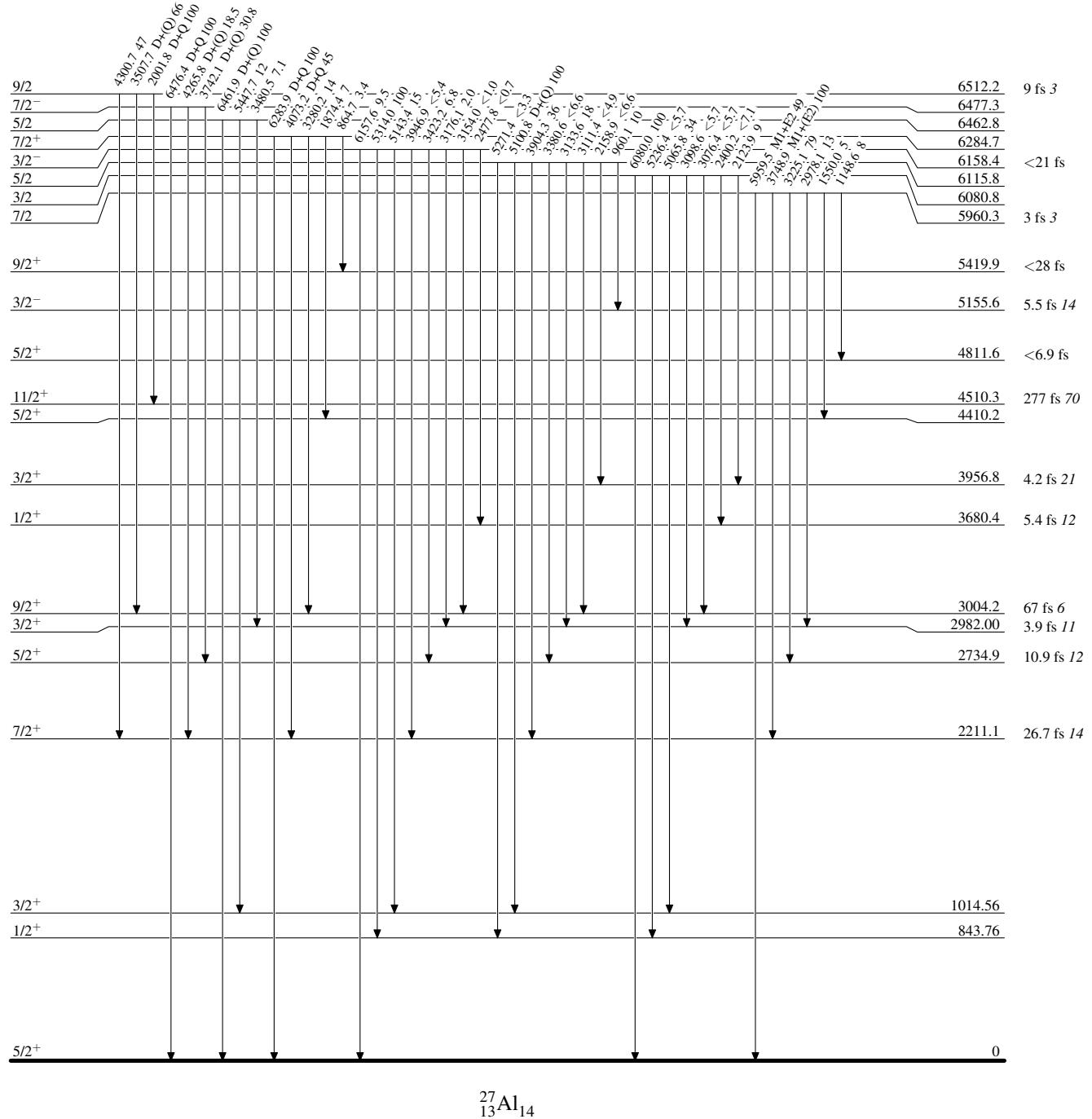
Intensities: Relative photon branching from each level



$^{26}\text{Mg}(\text{p},\gamma)$     1982Sm04,1978Ma24,1963Va24

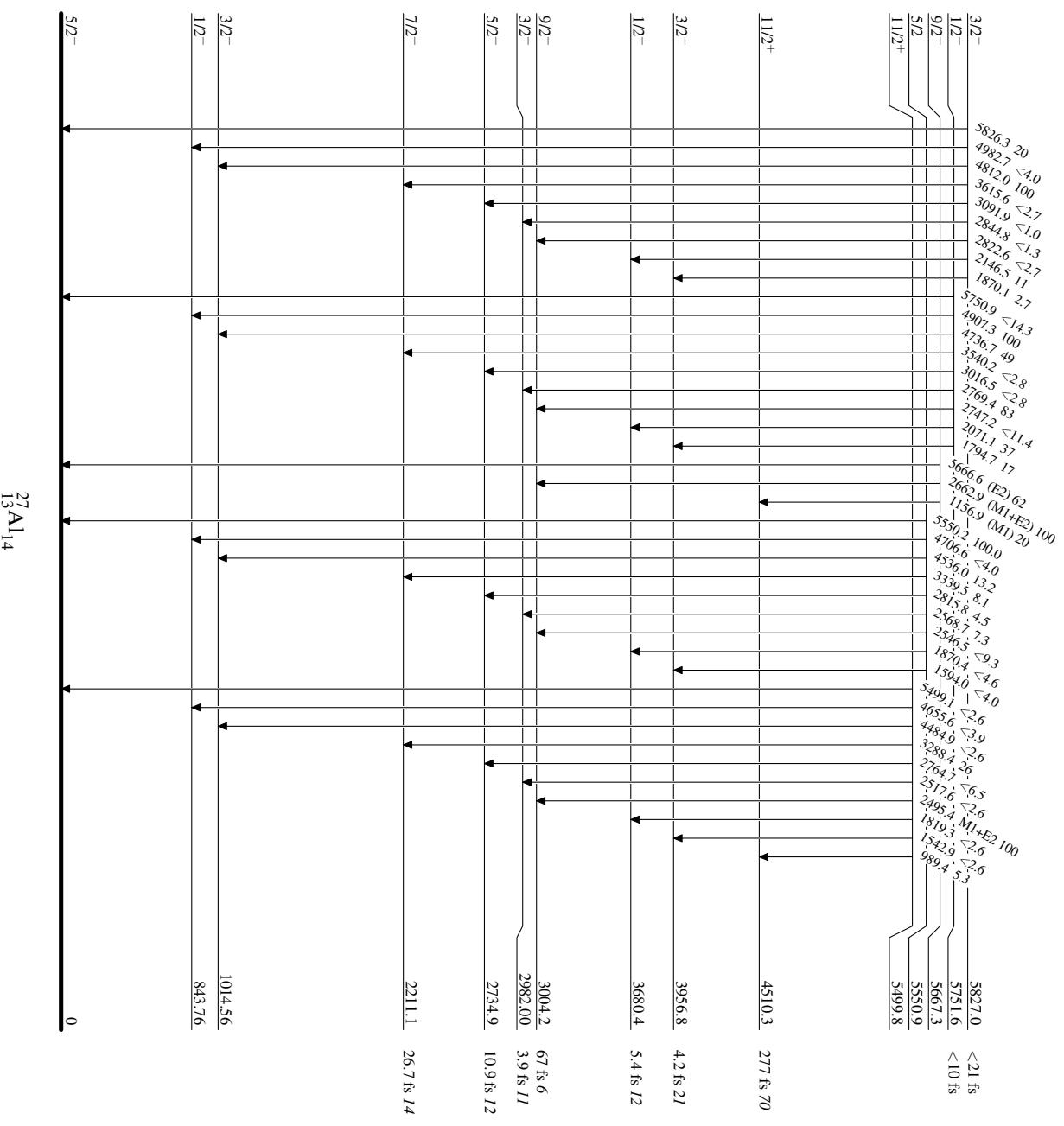
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{26}\text{Mg}(\text{p},\gamma) \quad 1982\text{Sm04,1978Ma24,1963Va24}$ Level Scheme (continued)

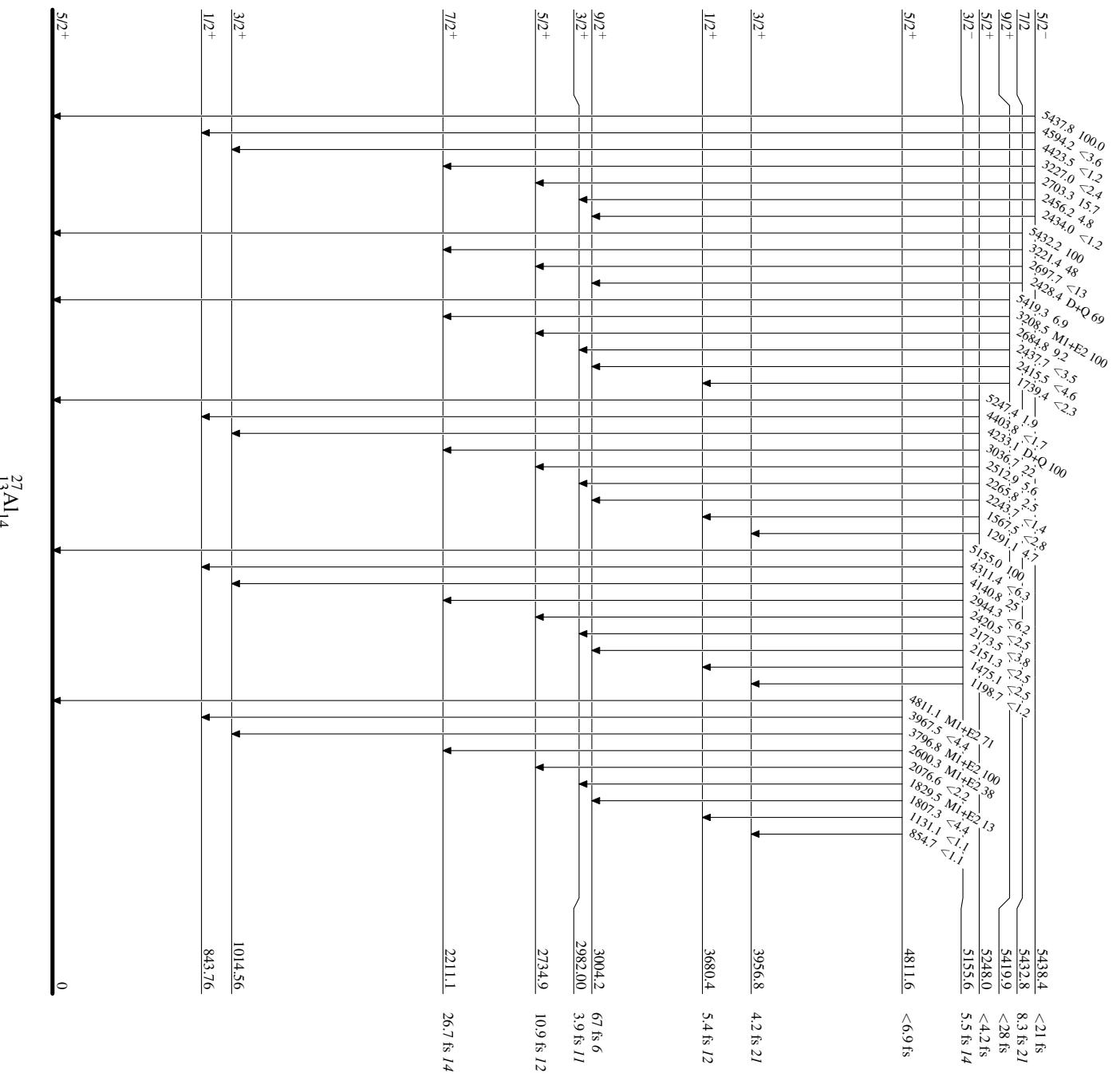
Intensities: Relative photon branching from each level



$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24

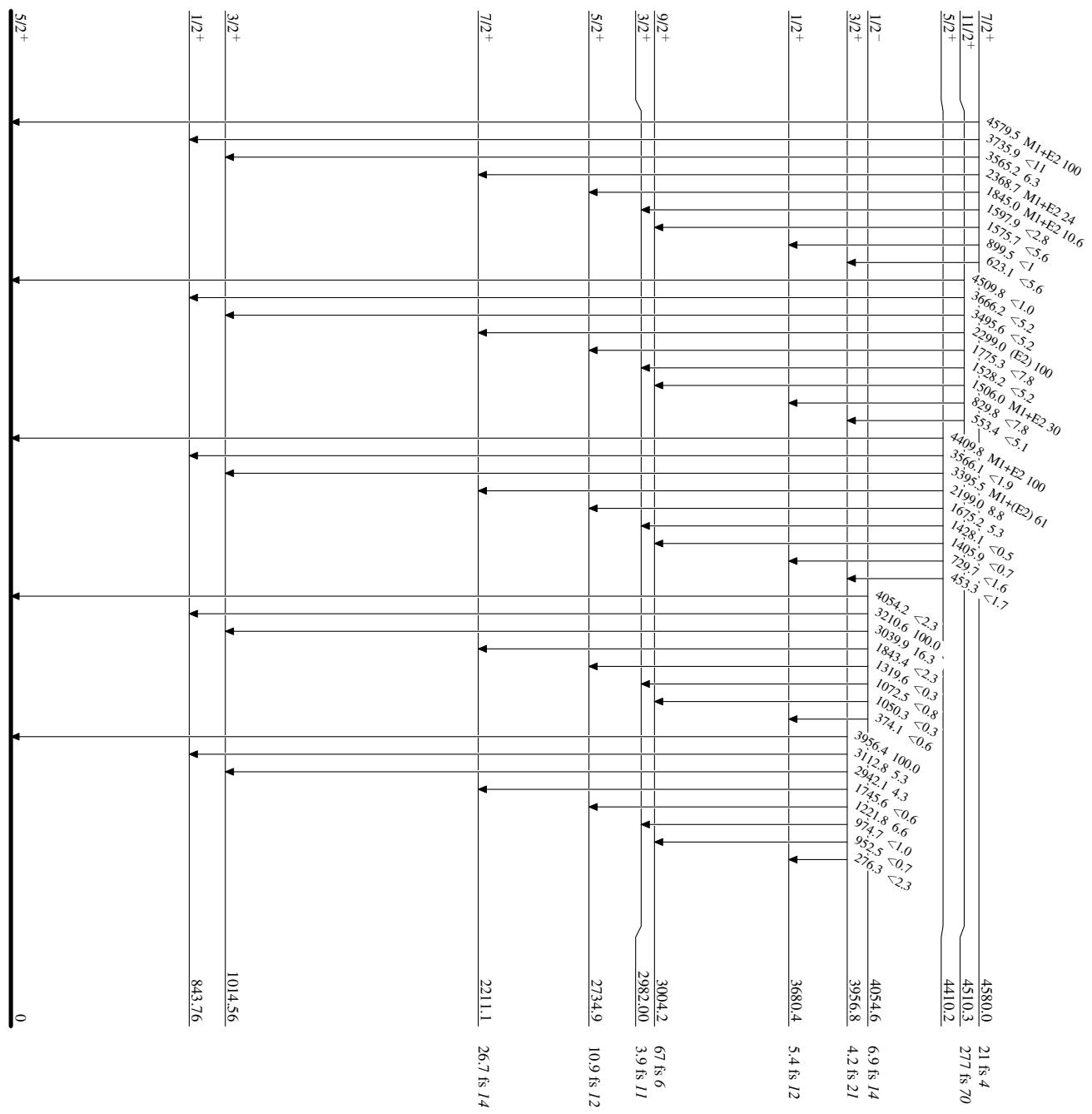
Level Scheme (continued)

Intensities: Relative photon branching from each level



**$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24****Level Scheme (continued)**

Intensities: Relative photon branching from each level



**$^{26}\text{Mg}(\text{p},\gamma)$  1982Sm04,1978Ma24,1963Va24****Level Scheme (continued)**

Intensities: Relative photon branching from each level

